



Jennifer Kiger, M.P.H. | Chief

Office of Public Health Preparedness and Response

Office Phone: (832) 927-7520

Email: Jennifer.Kiger@phs.hctx.net

2223 West Loop South, Houston, TX 77027



From: Nickle, Richard (ATSDR/DTHHS/OD) [<mailto:ran2@cdc.gov>]

Sent: Wednesday, April 10, 2019 12:53 PM

To: Shah, Umair MD (PHES) <Umair.Shah@phs.hctx.net>

Cc: Schaffer, Michael (PHES) <Michael.Schaffer@phs.hctx.net>; McClendon, Michael (PHES) <Michael.McClendon@phs.hctx.net>; Kiger, Jennifer (PHES) <Jennifer.Kiger@phs.hctx.net>; Yip, Luke (CDC/DDNID/NCEH/OD) <oiu7@cdc.gov>; Lavery, Amy (ATSDR/DTHHS/OD) <nqz6@cdc.gov>; Young, Patrick (CDC epa.gov) <YOUNG.PATRICK@EPA.GOV>; Young, Patrick (ATSDR/DCHI/CB) <pay9@cdc.gov>; Hanley, Jack (ATSDR/DCHI/CB) <jah8@cdc.gov>; Funk, Renee (CDC/DDNID/NCEH/OD) <rjf8@cdc.gov>; Lyke, Jennifer L. (EPA) (CDC epa.gov) <lyke.jennifer@epa.gov>; Lyke, Jennifer L. (ATSDR/DCHI/CB) <jlf1@cdc.gov>

Subject: CDC/ATSDR ITC site visit April 4-10, 2019

Dr. Shah, this is an exit report by the CDC/ATSDR Team in response to your request to Dr. Breyse re: the environmental health implications of the March 17th fire and subsequent chemical release at ITC.

In a series of meetings with your staff and other professionals in the Houston/Galveston area including the Unified Command set-up by the interagency pollution response forces engaged in cleanup at the ITC terminal, our staff obtained an impression of the excellent work done by Harris County Public Health in meeting the challenges of responding to this incident. As requested, CDC/ATSDR reviewed and analyzed the environmental data provided by HCPH and other county agencies of their air monitoring and water sampling conducted after the fire. We independently analyzed the data using the ATSDR Acute Minimal Risk Level for benzene and considered the action levels established by the state and your staff. In order to rapidly assess this data, we excluded the industrial areas around the ITC facility because workers in these area would be healthy adults covered by industrial safety programs mandated by the Occupational Safety and Health Administration and similar industry standards. We focused on locations where your monitoring teams recorded multiple detections of benzene and total VOCs using industry standard air monitoring instruments. We assumed that concentrations between successive readings in any given area were comparable to those reported in the data. Given the highly dynamic situation at the point of release, there is no way to verify the accuracy of this assumption. After identifying these locations in the provided data where our comparison values were exceeded, we used Google Earth and ArcGIS to estimate the potential exposures at these locations. The longest duration of monitoring results above our Acute MRL for benzene was from midnight to just after noon on March 23rd in an industrial area near the San Jacinto River in Channelview. During this approximately 12 hour period, the County's action level and the State's AMCV were exceeded only during the period from midnight to about 4 am when the lack of solar heating in the atmosphere likely contributed to

stable atmospheric conditions. It is our understanding that protective measures to reduce human exposure such as shelter-in-place were implemented whenever the County's action level was exceeded in 10 minutes average readings.

Based on our review of the air data we received, benzene levels were detected in isolated locations in the community above 1 ppm for periods less than a day. These concentrations are higher than we would normally consider protective. However, it is highly unlikely that any persistent or serious adverse health outcomes would be expected from exposures to these concentrations for the length of time they have been detected. (see the attached powerpoint on benzene comparison values.) Even the highest concentrations reported are unlikely to cause long-term adverse health effects. Signs and symptoms being associated with the fire would be expected to dissipate shortly after the exposure stopped. There is no medical reason to conduct biological testing for benzene; CDC/ATSDR would not recommend any biomarker testing or monitoring for benzene as a result of this incident.

We also reviewed the results of the water sampling conducted by Harris County. The samples were collected from Crystal Bay near Highlands and from Tucker Bayou near the ITC facility south to the Seabrook Marina below LaPorte. Of note to this incident, the samples were analyzed for Total Petroleum Hydrocarbons, Oil and Grease, and three perfluoroalkyls, including PFOA and PFOS. The results for the oil and petroleum were below the laboratory's detection limit; the detection limit was significantly below any concentration that might be associated with health effects. The results for the perfluoroalkyls were below EPA's long term health advisory and below concentrations equivalent to the lowest ATSDR intermediate MRL for substances in this class of chemicals. We would not expect adverse health effects from exposure to these concentrations.

Per your request, a Letter Health Consultation summarizing these points will be transmitted to you once it has undergone our clearance process. I hope this meets your needs pending the receipt of our consultation. If there are any questions related to this matter, please do not hesitate to contact us. CDC/ATSDR is available for further assistance including the review and analysis of additional environmental data. Again, we are impressed by the exemplary response of Harris County Public Health to this incident

Richard A. Nickle, MPH
ATSDR Emergency Response
Atlanta, GA
Ran2@cdc.gov
770-488-3343 (o)
770-488-7100 (24/7)
Ask for the ATSDR Duty Officer